AMENDMENTS TO THE CLAIMS

This claim listing will replace all prior versions and listings of claims in the application:

Claim Listing:

1.-13. (Cancelled)

14. (Currently Amended) A method of predicting the efficacy of treating a brain tumor comprising determining a gene expression profile by measuring the levels of polynucleotide gene expression products from two or more informative genes from one or more cells derived from a brain tumor, wherein one of said informative genes comprises nucleotides 3336-3720 of GenBank Accession No. M64347 is M64347_at, and wherein the gene expression profile is correlated with a treatment outcome, thereby classifying the brain tumor sample with respect to treatment outcome.

15. (Canceled)

16. (Currently Amended) The method of Claim 14, wherein the brain tumor is a medulloblastoma or a glioblastoma.

17. (Previously Amended) The method of Claim 16, wherein the medulloblastoma is classic medulloblastoma or desmoplastic medulloblastoma.

18. (Previously Amended) A method according to Claim 14, wherein the gene expression products are mRNA.

19. (Currently Amended) A method according to Claim 18, wherein the gene expression profile is determined by utilizing specific hybridization probes.

20. (Currently Amended) A method according to Claim 18, wherein the gene expression profile is determined by utilizing oligonucleotide microarrays.

21.-22. (Canceled)

23.   (Currently Amended) A method according to Claim 14, wherein the predicted treatment outcome is <u>a prognosis of</u> survival after treatment <u>or a prognosis of treatment failure</u>.

24.   (Currently Amended) A method according to Claim 14, wherein the informative genes are selected from the group consisting of the genes ~~in Table 1~~ <u>identified by GenBank Accession Nos. L17131, X74801, L36069, Y07604, U34038, X59798, X87241, U66619, L35594, X05360, L26081, X64624, X13293, U15008, X03794, X77533, D28473, D50914, U63743, U86782, X54938, L12711, L33842, M14328, M36072, X69150, U28749, U12595, X51757, U09178, U05572, U23752, Z26317, U62531, Z31560, U72509, U84573, M12625, S78187, X05299, L27584, L00058, M13934, U14972, L32866, M38591, L13923, L33799, S76475, D28124, D29956, U50136, U63455, U28963, M55593, M73547, M73547, X69398, J04423, J02611, S66541, X15880, S71824, X68994, X52022, X15882, U70867, D14686, D31815, U78180, U66661, M64099, U40271, Y09616, U28811, Z38133, L06419, X76732, D80004, U05291, K02054, X93510, Y10615, M96739, U95740, U43747, U38268, D86479, D82326, and X78565.</u>

25.   (Currently Amended) A method according to Claim 14, wherein the informative genes are selected from the group consisting of the genes ~~in Tables 2-6~~ <u>identified by GenBank Accession Nos. L06419, J02611, D86974, U37673, U28963, X69636, U18018, M97287, U78180, S76475, D28124, U70867, M17733, L10333, D14686, S66541, AC002045, M96739, D86963, U40271, L09229, D78012, M74715, L32164, L04731, M22919, X15882, U20657, L17327, J05412, D43682, X58521, M21142, X52896, D50663, U35139, U16660, U04241, Y07847, U78521, X93511, D30715, U51920, U02619, U14417, M73547, U09820, X13461, Z56281, X69150, M36072, X13293, U14972, K03189, L17131, X13482, L12711, L19711, X04741, U12404, U15008, U81375, X13794, Z49148, U39318, X67247, U14968, D63880, Y07604, J04823, M13934, U30872, M81757, L07515, M14328, D82348, D78586, M32886, U31556, X94910,</u>

Y10313, S78187, U12595, L36720, D29805, X52966, M64716, U09770, D28473, X69908, U76638, X79234, X15376, and M14199.

26.   (Currently Amended) A method for predicting a treatment outcome of a patient from whom a brain tumor sample is obtained, comprising:

   a)   determining a weighted vote based on gene expression values determined by measuring the levels of polynucleotide gene expression products from two or more informative genes from one or more cells derived from a brain tumor from the patient, wherein one of the informative genes comprises nucleotides 3336-3720 of GenBank Accession No. M64347 is M64347_at, wherein the weighted vote for each informative gene is determined in accordance with a model built with a weighted voting scheme, wherein each gene for which a polynucleotide gene expression product is measured is assigned a vote, and wherein the magnitude of the vote corresponding to a gene's expression depends on the expression level of the gene and on the degree of correlation of the gene's expression with class distinction, wherein class distinction is made with reference to a first class or a second class, wherein the first class is good prognosis of survival after treatment and the second class is a prognosis of treatment failure; and

   b)   summing the votes determined in (a) to determine a the winning class, wherein the winning class predicts the treatment outcome of the patient.

27.   (Currently Amended) The method of Claim 26, wherein the weighted voting scheme is:

$$V_g = a_g (x_g - bg),$$

wherein V_g is the weighted vote of the gene, g; a_g is the correlation between gene expression values and class distinction; $b_g = (\mu_1(g) + \mu_2(g))/2$ is the average of the mean $\log_{10}$ expression value in a first class and a second class; x_g is the $\log_{10}$ gene expression value in the brain tumor sample to be tested; and wherein a positive V value indicates a vote for the first class, and a negative V value indicates a vote for the second class.

28.   (Previously Presented) The method according to Claim 26, wherein the informative genes are selected from the group consisting of the genes in Table 1 identified by

GenBank Accession Nos. L17131, X74801, L36069, Y07604, U34038, X59798, X87241, U66619, L35594, X05360, L26081, X64624, X13293, U15008, X03794, X77533, D28473, D50914, U63743, U86782, X54938, L12711, L33842, M14328, M36072, X69150, U28749, U12595, X51757, U09178, U05572, U23752, Z26317, U62531, Z31560, U72509, U84573, M12625, S78187, X05299, L27584, L00058, M13934, U14972, L32866, M38591, L13923, L33799, S76475, D28124, D29956, U50136, U63455, U28963, M55593, M73547, M73547, X69398, J04423, J02611, S66541, X15880, S71824, X68994, X52022, X15882, U70867, D14686, D31815, U78180, U66661, M64099, U40271, Y09616, U28811, Z38133, L06419, X76732, D80004, U05291, K02054, X93510, Y10615, M96739, U95740, U43747, U38268, D86479, D82326, and X78565.

29.　(Previously Presented) The method according to Claim 26, wherein the informative genes are selected from the group consisting of the genes ~~in Tables 2-6~~ identified by GenBank Accession Nos. L06419, J02611, D86974, U37673, U28963, X69636, U18018, M97287, U78180, S76475, D28124, U70867, M17733, L10333, D14686, S66541, AC002045, M96739, D86963, U40271, L09229, D78012, M74715, L32164, L04731, M22919, X15882, U20657, L17327, J05412, D43682, X58521, M21142, X52896, D50663, U35139, U16660, U04241, Y07847, U78521, X93511, D30715, U51920, U02619, U14417, M73547, U09820, X13461, Z56281, X69150, M36072, X13293, U14972, K03189, L17131, X13482, L12711, L19711, X04741, U12404, U15008, U81375, X13794, Z49148, U39318, X67247, U14968, D63880, Y07604, J04823, M13934, U30872, M81757, L07515, M14328, D82348, D78586, M32886, U31556, X94910, Y10313, S78187, U12595, L36720, D29805, X52966, M64716, U09770, D28473, X69908, U76638, X79234, X15376, and M14199.

30.　(Canceled)

31.　(Currently Amended) A method for evaluating drug candidates for their effectiveness in treating a brain tumor comprising determining a gene expression profile by measuring the levels of polynucleotide gene expression products from two or more informative genes from one or more cells derived from a brain tumor, wherein one of said

informative genes comprises nucleotides 3336-3720 of GenBank Accession No. M64347 is M64347_at, before and after treatment with a drug candidate, and comparing the gene expression profile determined before treatment with the gene expression profile determined after treatment, wherein the brain tumor is selected from the group consisting of mellanoblastomas, glioblastomas, rhabdoid tumors, primitive neuroectodermal tumors, and pineoblastomas, and wherein a drug candidate which alters the gene expression profile such that the expression profile is more similar to a normal gene expression profile after treatment is a drug candidate which may be effective in treating a brain tumor.

32.   (Currently Amended) A method for monitoring the efficacy of a brain tumor treatment comprising:

    a)   determining gene expression profiles at multiple time points during treatment of a patient by measuring the levels of polynucleotide gene expression products from two or more informative genes from one or more cells derived from a brain tumor, wherein one of said informative genes comprises nucleotides 3336-3720 of GenBank Accession No. M64347 is M64347_at; and

    b)   determining the treatment outcome at each time point based on the gene expression profile, thereby monitoring the efficacy of a brain tumor treatment, wherein the brain tumor is selected from the group consisting of mellanoblastomas, glioblastomas, rhabdoid tumors, primitive neuroectodermal tumors, and pineoblastomas.

33.-34. (Canceled)

35.   (New) The method of Claim 14, wherein the brain tumor is a glioblastoma.

36.   (New) The method of Claim 31, wherein the brain tumor is a medulloblastoma.

37.   (New) The method of Claim 31, wherein the brain tumor is a glioblastoma.

38.   (New) The method of Claim 32, wherein the brain tumor is a medulloblastoma.

39.   (New) The method of Claim 32, wherein the brain tumor is a glioblastoma.

40.   (New) The method according to Claim 14, wherein one or more of the informative genes can be identified by hybridization to a probe selected from the group consisting of HG3523-HT4899_s_at, HG1800-HT1823_at, HG613-HT613_s_at, HG2994-HT4850_s_at, HG2525-HT2621_s_at, HG4318-HT4588_s_at, HG4390-HT4660_at, HG4011-HT4804_s_at, HG2686-HT2782_at, HG2525-HT2621_at, HG2479-HT2575_at, HG3214-HT3391_at, and HG4542-HT4947_at contained in the Affymetrix® HuGeneFL array.

41.   (New) The method according to Claim 26, wherein one or more of the informative genes can be identified by hybridization to a probe selected from the group consisting of HG3523-HT4899_s_at, HG1800-HT1823_at, HG613-HT613_s_at, HG2994-HT4850_s_at, HG2525-HT2621_s_at, HG4318-HT4588_s_at, HG4390-HT4660_at, HG4011-HT4804_s_at, HG2686-HT2782_at, HG2525-HT2621_at, HG2479-HT2575_at, HG3214-HT3391_at, and HG4542-HT4947_at contained in the Affymetrix® HuGeneFL array.